

Using Floor Finishes Safely

A finish can be good for your floor and bad for your health unless you take the proper precautions.

THE NEXT TIME YOU'RE ABOUT TO open a can of polyurethane varnish, set the container on a table, pull up a chair, and don your reading glasses.

The word "flammable" is probably the first warning that'll catch your eye. Then, in smaller print, you'll notice other explicit cautions that urge you to use adequate ventilation, avoid breathing the vapors, avoid prolonged contact with your skin, and keep the stuff out of children's reach. Most manufacturers think it prudent to add, "Not to be taken internally. May be fatal if swallowed."

These federally mandated warnings are critically important and printed there for a reason. But other than to check drying times or brush cleaning information, how many homeowners take the time to read the safety considerations on an ordinary can of finish?

More importantly, how many heed the warnings?

Varnish, shellac, and the so-called "natural" floor finishes can all be safely used to enhance the beauty and durability of wood floors. But they must be applied with care; otherwise you put both your health and your home in jeopardy.

Varnishes and shellacs contain two basic ingredients: *resin* and *solvent*. The resin is the film that's left on the floor after the job is done. The solvent keeps things flowing during application and then evaporates. Usually, but not always, it's the solvent that's toxic and flammable. The solvents used in polyurethanes are blends of hydrocarbons, sometimes called mineral spirits or petroleum distillates. In shellac, the solvent is methyl alcohol.

Ventilate!

As you brush the finish onto the floor, the solvent evaporates rapidly, emitting toxic, flammable vapors into the air. If these fumes reach critical levels (sensitivity varies from person to person), your body will give you warning signs, such as watery eyes, sore throat, dizziness, headache, or nausea. (Repeated, long-term exposure to solvents can damage the central nervous system, lungs, and other organs.) If you develop any of these symptoms, increase the amount of ventilation and stay out of the area for a while.

Without adequate ventilation, the concentration of fumes can build to a level where an electric spark or pilot light may trigger an explosion. It's difficult to gauge at what point the fumes can be ignited. Normally, unless you're wearing a respirator, the vapors

will drive you from the room long before the concentrations reach the point where a flash fire might occur.

"The key to avoiding both the fire and health hazards associated with floor finishes is to keep the fumes from building up in the first place," says Sandra Eberle, who oversees the Chemical Hazards Program at the Consumer Product Safety Commission. "That means providing plenty of direct ventilation where you're working." Eberle says she'd like to see product labels carry more detailed information about ventilation so homeowners won't underestimate the threshold for safety. "The phrase 'adequate ventilation' may mean one thing to one person and something quite different to another."

Some people balk at opening windows and doors and setting up fans to provide cross-ventilation. What if dust blows in and sullies that high-gloss finish? What if it's 15° F outside? The answer: Do it anyway!

"Try to schedule the job between May and September," says Dr. Thad Godish, director of the Indoor Air Quality Research Laboratory at Ball State University in Indiana. "If you must finish floors in the cold of winter, go ahead and open the windows. It's better to pay utility bills than hospital bills."

Doctors and toxicologists recommend that when applying floor finish, spend as little time in the area as you can. If at all possible, leave the house for a few days afterward. Most of the toxic outgassing occurs in the first 24 to 36 hours after finish is brushed on. Pregnant women should avoid exposure not only to freshly applied floor finishes, but to powerful solvents of any kind. A good rule of thumb is that if you can still smell it, stay away. If you're pregnant and considering having floors refinished in your home, check with your physician first.

Use A Respirator

While ventilation reduces the amount of toxic vapors you inhale, a little extra protection helps. For about \$25 you can buy a good half-face respirator that uses replaceable charcoal cartridges and particle filters. This type of mask

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